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VERIZON WIRELESS (VAW) LLC

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UNITED STATES DISTRICT COURT

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NORTHERN DISTRICT OF CALIFORNIA

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15 JOHN LOFTON, an individual, on his own behalf and on behalf of all others similarly situated,

Case Number: 4:13-cv-05665-YGR

16

17   Plaintiff,

DECLARATION OF AARON WOOLFSON RE: NOVEMBER 21, 2014 ORDER FOLLOWING DISCOVERY CONFERENCE (ECF NO. 68)

18 v

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20 VERIZON WIRELESS (VAW) LLC,

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22   Defendant.

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I, Aaron Woolfson, Declare as Follows:

1. I am the founder of TelSwitch, Inc. which I started in 1994. Before that I wrote programming for databases at the University of Illinois in Urbana-Champaign. Cumulatively, I have over 25 years of experience designing and developing efficient, accurate, and reliable database applications for banking, mortgage, aerospace, telecommunications and payroll industries. I have been relied upon as a testifying expert by plaintiffs and defendants related to my expertise in databases in more than 150 cases, including several TCPA class actions. Several courts have relied upon my testimony for their decisions on Class Certification. I am personally familiar with the matters set forth in this report, and, if called as a witness, I could and would readily and competently testify to them. A copy of my most recent curriculum vitae is attached to this Expert Report as **Exhibit 1**. The facts stated in Exhibit 1 are true and correct to my personal knowledge.

Purpose of my Engagement:

2. I was retained by counsel to assist in the analysis and production of Collecto's records. My skillsets are based upon on my 25 years of experience in designing, developing and analyzing database records for the aerospace, telecommunications and payroll industries, including the U.S. Department of Justice (Sacramento, Ca).

3. Additionally, I am familiar with the technology related to telephone systems and their interface to the networks through which calls are transmitted. I am also familiar with how dialing systems work, and the databases that retain records of telephone (and related) systems.

Summary of Discovery Related Tasks:

4. I was asked to produce certain information, listed below in items (a) through (n), from Collecto's records pertaining to calls on Verizon Wireless accounts, from November 12, 2009

to November 12, 2013, in a [TAB] delimited text format.

    a. The telephone number called;
    b. Telephone number Collecto called from;
    c. Date and time of the telephone call;
    d. Dialer used to make the call (i.e., Noble, GC, Livevox or Soundbite);
    e. Campaign identifier in which the call was made;
    f. Mode or method the dialer used to make the call (i.e., predictive dialing, power dialing, preview dialing, timed preview dialing, One-Click dialing, or manual dialing,);
    g. Identity of Collecto's client on whose behalf the call was made;
    h. Identity of the employee, agent, and/or user who was responsible for the call;
    i. Identify whether the call was connected or not (i.e., whether the recipient telephone number was disconnected, dialer received a SIT tone, etc.);
    j. Identify whether the call was answered by a live person, answering machine, or voice mail (and if a pre-recorded call was left for the answering machine or voice mail);
    k. whether the call was recorded;
    l. Whether the debt collector identified the recipient telephone number as a "bad" or "wrong" number; and
    m. The FACS window which corresponds to the telephone number called (i.e., window 572 or otherwise);
    n. The name, address, and other identifying information of the debtor/account holder Collecto sought to call.

5. Collecto provided me with access to:

    a. Collecto's Caché database used by FACS containing the Verizon Wireless accounts;
    b. Collecto's archive of Noble Import files (stores information from the Noble dialer);
    c. Collecto's archive of SoundBite Import files (stores information from the SoundBite dialer).

6. During my work on this production, I also discovered that Collecto possesses an archive of several thousand compact discs ("CD's"). I examined the contents of one of those CD's. The CD contained a file labeled "ARCHIVE.UNL". Because of time deadlines, I did not utilize any of those CD's for the current production. The CD's are on premises at Collecto's offices, and are not in my possession.

7. About two weeks ago, I also discovered the existence of another SoundBite archive, stored on a disk drive at Collecto. That archive contains folders, and each folder appears to be a single file labeled "manifest.csv." Because of the time deadlines for this production, I did not utilize

this disk drive archive for the current production. This disk drive is on premises at Collecto's

offices, and is not in my possession.

8. My assistants and I have endeavored to produce all of the requested information from the

sources listed in paragraph 5. The items that I have not been able to produce are:

a) Item E – Campaign Identifier. To my knowledge, this data is only available in a limited

fashion within the FACS notes file. This information appears to be contained within the

SoundBite manifest.csv archive. This information also appears to be within the Noble

CD's.

b) Item F – Mode of dialing. This information appears to be contained within the SoundBite

manifest.csv archive, and on the Noble CD's.

c) Item H – Identity of Employee or Agent.   This information appears to be contained within

the SoundBite manifest.csv archive. This information also appears to be within the Noble

CD's.

d) Item K – Whether the call was recorded.   This information appears to be contained within

the SoundBite manifest.csv archive, and on the Noble CD's.

Production of Data from FACS:

9. Besides producing all Verizon Wireless customer account data from the FACS system, I also

produced all calls made to Verizon Wireless accounts in TAB-delimited format. I split each

system's output report into approximately 1,000,000 record-count-records per file. I also

added the Verizon-provided contact details, including original account number to the output

files, and to the information from FACS, I added requested information from the Noble and

SoundBite archives identified in paragraph 5, above. The records that I produced are labeled

as follows:

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Confidential - Subject to Protective Order - EOS000547 - chi_dbtr_Notes_part1_notes.txt
Confidential - Subject to Protective Order - EOS000548 - def_dbtr_Notes_part1_notes.txt
Confidential - Subject to Protective Order - EOS000549 - def_dbtr_Notes_part2_notes.txt
Confidential - Subject to Protective Order - EOS000550 - chi_dbtr_Notes_part2_notes.txt
Confidential - Subject to Protective Order - EOS000551 - def_dbtr_Notes_part3_notes.txt
Confidential - Subject to Protective Order - EOS000552 - den_dbtr_Notes_part1_notes.txt
Confidential - Subject to Protective Order - EOS000553 - chi_dbtr_Notes_part1_names.txt
Confidential - Subject to Protective Order - EOS000554 - def_dbtr_Notes_part1_names.txt
Confidential - Subject to Protective Order - EOS000555 - den_dbtr_Notes_part1_names.txt
Confidential - Subject to Protective Order - EOS000556 - def_dbtr_Notes_part2_names.txt
Confidential - Subject to Protective Order - EOS000557 - den_dbtr_Notes_part2_names.txt
Confidential - Subject to Protective Order - EOS000558 - den_dbtr_Notes_part3_names.txt
Confidential - Subject to Protective Order - EOS000559 - chi_dbtr_Notes_part2_names.txt
Confidential - Subject to Protective Order - EOS000560 - def_dbtr_Notes_part3_names.txt
Confidential - Subject to Protective Order - EOS000561 - den_dbtr_Notes_part3_notes.txt
Confidential - Subject to Protective Order - EOS000562 - den_dbtr_Notes_part2_notes.txt
Confidential - Subject to Protective Order – EOS000563 - chi_dbtr_Notes_part3_names.txt
Confidential - Subject to Protective Order – EOS000564 - chi_dbtr_Notes_part3_notes.txt
Confidential - Subject to Protective Order – EOS000565 - den_dbtr_Notes_part4_names.txt
Confidential - Subject to Protective Order – EOS000566 - den_dbtr_Notes_part4_notes.txt

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The FACS window which corresponds to the telephone number called (i.e., window 572 or otherwise) are located in the following files:

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Confidential - Subject to Protective Order - EOS000620 - production screen 571_CHI_1of1.zip
Confidential - Subject to Protective Order - EOS000621 - production screen 572_CHI_1of1.zip
Confidential - Subject to Protective Order - EOS000622 - production screen 571_DEF_1of1.zip
Confidential - Subject to Protective Order - EOS000623 - production screen 572_DEF_1of1.zip
Confidential - Subject to Protective Order - EOS000624 - production screen 571_DEN_1of2.zip
Confidential - Subject to Protective Order - EOS000625 - production screen 571_DEN_2of2.zip
Confidential - Subject to Protective Order - EOS000626 - production screen 572_DEN_1of2.zip
Confidential - Subject to Protective Order - EOS000627 - production screen 572_DEN_2of2.zip

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Calls made to Verizon Wireless customers by Collecto appear in the following files, along with the information provided by Verizon identifying the customer (Window 2).

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Confidential - Subject to Protective Order - EOS000595 - production_CHI_GC_1of3.txt
Confidential - Subject to Protective Order - EOS000596 - production_CHI_GC_2of3.txt
Confidential - Subject to Protective Order - EOS000597 - production_CHI_GC_3of3.txt
Confidential - Subject to Protective Order - EOS000598 - production_DEF_GC_1of1.txt
Confidential - Subject to Protective Order - EOS000599 - production_DEN_GC_1of6.txt
Confidential - Subject to Protective Order - EOS000600 - production_DEN_GC_2of6.txt
Confidential - Subject to Protective Order - EOS000601 - production_DEN_GC_3of6.txt
Confidential - Subject to Protective Order - EOS000602 - production_DEN_GC_4of6.txt
Confidential - Subject to Protective Order - EOS000603 - production_DEN_GC_5of6.txt
Confidential - Subject to Protective Order - EOS000604 - production_DEN_GC_6of6.txt
Confidential - Subject to Protective Order - EOS000608 production_CHI_noble_1of2.zip
Confidential - Subject to Protective Order - EOS000609 production_CHI_noble_2of2.zip
Confidential - Subject to Protective Order - EOS000610 production_DEF_noble_1of1.zip
Confidential - Subject to Protective Order - EOS000611 production_DEN_noble_1of7.zip
Confidential - Subject to Protective Order - EOS000612 production_DEN_noble_2of7.zip
Confidential - Subject to Protective Order - EOS000613 production_DEN_noble_3of7.zip

Confidential - Subject to Protective Order - EOS000614 production_DEN_noble_4of7.zip
Confidential - Subject to Protective Order - EOS000615 production_DEN_noble_5of7.zip
Confidential - Subject to Protective Order - EOS000616 production_DEN_noble_6of7.zip
Confidential - Subject to Protective Order - EOS000617 production_DEN_noble_7of7.zip
Confidential - Subject to Protective Order - EOS000618 production_CHI_nobleNotInFacs_1of1.zip
Confidential - Subject to Protective Order - EOS000619 production_DEN_nobleNotInFacs_1of1.zip
Confidential - Subject to Protective Order - EOS000628 - production SoundBite CHI - 1of12.zip
Confidential - Subject to Protective Order - EOS000629 - production SoundBite CHI - 2of12.zip
Confidential - Subject to Protective Order - EOS000630 - production SoundBite CHI- 3of12.zip
Confidential - Subject to Protective Order - EOS000631 - production SoundBite CHI - 4of12.zip
Confidential - Subject to Protective Order - EOS000632 - production SoundBite CHI - 5of12.zip
Confidential - Subject to Protective Order - EOS000633 - production SoundBite CHI - 6of12.zip
Confidential - Subject to Protective Order - EOS000634 - production SoundBite CHI - 7of12.zip
Confidential - Subject to Protective Order - EOS000635 - production SoundBite CHI - 8of12.zip
Confidential - Subject to Protective Order - EOS000636 - production SoundBite CHI - 9of12.zip
Confidential - Subject to Protective Order - EOS000637 - production SoundBite CHI - 10of12.zip
Confidential - Subject to Protective Order - EOS000638 - production SoundBite CHI - 11of12.zip
Confidential - Subject to Protective Order - EOS000639 - production SoundBite CHI - 12of12.zip
Confidential - Subject to Protective Order - EOS000640 - production SoundBite DEN - 1of21.zip
Confidential - Subject to Protective Order - EOS000641 - production SoundBite DEN - 2of21.zip
Confidential - Subject to Protective Order - EOS000642 - production SoundBite DEN - 3of21.zip
Confidential - Subject to Protective Order - EOS000643 - production SoundBite DEN - 4of21.zip
Confidential - Subject to Protective Order - EOS000644 - production SoundBite DEN - 5of21.zip
Confidential - Subject to Protective Order - EOS000645 - production SoundBite DEN - 6of21.zip
Confidential - Subject to Protective Order - EOS000646 - production SoundBite DEN - 7of21.zip
Confidential - Subject to Protective Order - EOS000647 - production SoundBite DEN - 8of21.zip
Confidential - Subject to Protective Order - EOS000649 - production SoundBite DEN - 9of21.zip
Confidential - Subject to Protective Order - EOS000650 - production SoundBite DEN - 10of21.zip
Confidential - Subject to Protective Order - EOS000651 - production SoundBite DEN - 11of21.zip
Confidential - Subject to Protective Order - EOS000652 - production SoundBite DEN - 12of21.zip
Confidential - Subject to Protective Order - EOS000653 - production SoundBite DEN - 13of21.zip
Confidential - Subject to Protective Order - EOS000654 - production SoundBite DEN - 14of21.zip
Confidential - Subject to Protective Order - EOS000655 - production SoundBite DEN - 15of21.zip
Confidential - Subject to Protective Order - EOS000656 - production SoundBite DEN - 16of21.zip
Confidential - Subject to Protective Order - EOS000657 - production SoundBite DEN - 17of21.zip
Confidential - Subject to Protective Order - EOS000658 - production SoundBite DEN - 18of21.zip
Confidential - Subject to Protective Order - EOS000659 - production SoundBite DEN - 19of21.zip
Confidential - Subject to Protective Order - EOS000660 - production SoundBite DEN - 20of21.zip
Confidential - Subject to Protective Order - EOS000661 - production SoundBite DEN - 21of21.zip

I declare under penalty of perjury that the foregoing is true and correct. Executed December
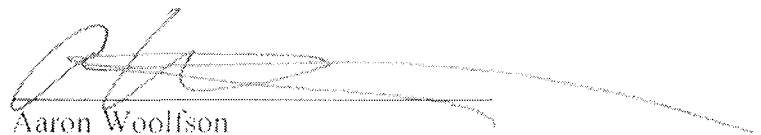
12, 2014 at Stockton, California:

Aaron Woolfson

EXHIBIT 1

Curriculum Vitae   **Aaron David Woolfson**

16 Matisse Ct., Pleasant Hill, Ca 94523 - (209) 915-2483 direct

Career Summary

25 Years of Experience developing extremely large scale, highly efficient and accurate Database Applications, for commercial, government, aerospace, telecommunications and payroll industry, with special emphasis in IVR systems.

- Database transition planning and disaster recovery experience
- Client-Server Database Application Design and Development
- Developed extremely high performance IVR system (1.5m calls/day)

- Efficient Database Design through Data modeling
- Full understanding of Database libraries, and transaction handlers
- Deep knowledge of Electronic Time Keeping Techniques

- Efficient Database Table Structuring and Indexing Techniques
- RDO/ADO interface techniques, incl. port 1433 direct interface
- Point of Sale Time Keeping Integration with Payroll

- Comprehensive data transformation, tallying through data analysis
- VB6 and .NET(2.0) bonded objects AND non-bound objects
- GPS "as-Time Keeping" object, tracking, and analysis techniques

- Presentation of sophisticated data in easily-understood terms
- Web-Services data integration and multi data-source integration
- Networked Multi-Location Database Components related to Timekeeping

- An early investor in, and partial developer of QL2, a data-analysis tool for turning web-pages into rich-data searchable sources of information. QL2's customers include 7 of the top 10 global airlines, 5 of the top global online travel agencies, and Global 100 energy, car rental, retail, pharmaceutical and life science companies.

Professional Experience *(consulting that resulting in deliverables)*

University of Illinois, Champaign-Urbana (1986, 1987, 1988). Employed to Program computer terminals attached to a Mainframe computer system (PLATO) that were used to generate databases containing class schedules based upon prospective students' interests and SAT scores. Curriculum was graphically represented on Plasma Display Terminals attached to the University's PLATO computer Plato Computer Mainframe. Student Curriculums included travel time between classrooms in different buildings and items related to classroom proximity. Worked under the auspices of Don Bitzer, inventor of the Plato Computer System and co-inventor of the Plasma Display Panel, and Hugh Satterlee, Ombudsman of the University of Illinois, Champaign-Urbana.

Computer Services Office, San Joaquin Delta College, Stockton California (1991, 1992). Maintained campus-wide network of mainframe-based computer terminals used for class scheduling and curriculum development;

Delta Telecommunications, Stockton, Ca (1993). Founded a California Based Public Utility (U-5410-C) focusing on a network of telephone switching systems connected to databases that were used to route telephone calls of customers within the State of California. I invented the efficient IXC-10 Network Switch and the associated databases, as there were no highly efficient telephone switches during that time that took up a small amount of space, yet could handle the demands of a full-scale telephone switching office.

Curriculum Vitae   **Aaron David Woolfson**

16 Matisse Ct., Pleasant Hill, Ca 94523 - (209) 915-2483 direct

TelSwitch, Inc., Stockton, Ca (1994). I authored the Airnet Billing and Call Collection Database software that was used at TelSwitch, Inc for the purpose of billing residential and commercial long distance customers for the calls that they made. I wrote database formulas to establish the rating of telephone calls based upon the elements provided by the switching network: call setup, call type, call routing, and rate plan assigned to customer. Determined the rates and taxes to charge the customers on each call, based upon the rate plans assigned, the time of day, the time and duration of the call, and whether that call was intrastate, interstate, or Intra-lata. Processed millions of telephone calls through my database.

Japan Telecom America, San Ramon, Ca (1996). I adopted the Airnet Billing Software and Call Collection Database that I had authored to specifically meet the needs of an international telecommunications corporation doing business in the United States, Japan, and in Canada, presenting bills to customers in multiple languages and font sets, accepting various currencies, which all had to be computed against the dollar in real time.

Oersted Corporation (Sunstrand Contract) (1997). Designed and authored an Automation Control and Database system used for the mass-production of mission-critical magnetic armatures used in Air Conditioning, and Electric Vehicle, and Aerospace applications. I created the process control mechanism that allowed the machine to "manufacture the part" and measure the results, and report the results to a master database that contained Quality Control statistics. This machine continues to operate at a Sunstrand Corporation facility in Wisconsin and has successfully manufactured hundreds of thousands of components.

Network Services Solutions, LLC., Reno, Ca (2001). Customized a database for tracking the overlapping time elements of telephone calls, and establish audit trails of telephone calls through the phone network, based upon origination, destination, time, and jurisdiction. The system is in use to track the costs for telephone lines and services to hundreds of schools, dozens of hospitals, and is the backbone for a national communication network, with over five million transactions being tracked through my database monthly.

Decisionet, St. Charles, Il. (Experian Project) (2004). I was contacted to build a Database and Electronic Gateway "Appliance" Device for customers to acquire credit reports from Experian's secure database. The system was used to facilitate the delivery of 7.2 million credit reports to commercial users, including credit unions, banks, car dealerships. The system tracked usage, report lengths, type of reports, and reporting tools to Experian's customers to view the quantities of reports that were used through the system, types of reports, and other information pertaining to the acquisition of reports. The service allowed Decisionet to extend the life of legacy interface environments between Experian and its' clients by several years.

BankVOD / Billing Solutions, Inc. - (Bank of America, Wells Fargo Bank, JP Morgan Chase, PNC, Bank of the West) (2005). Designed and built a network of Database Applications for the mortgage industry using Microsoft SQL and ASP.net. The system created a protocol for banks and mortgage brokers to exchange information on the status underwriting of loan applications, providing tracking of Verification of Income, Verifications of Deposit and Verification of Mortgage applications, as well as providing the analysis back to the banks for items such as Check Verification(s). The database also triggered the disbursements of processing costs and reimbursements toward the banks. To date, my system has been an integral part of the processing of over 1.2 million mortgage applications.

SAIC - Patriot Missile Systems / Training division (Subcontract) (DPAS Rated) (2007). Designed the hardware, software, and firmware used within the modern-day re-instrumented version of Patriot Missile consoles. I was tasked with developing a hardware and software combination that retained full compatibility with both modern and legacy equipment, that could provide data to commercial and proprietary databases efficiently and reliably in extreme environments. I am proud that my work is considered to be an integral part of the battle-field readiness and preparedness of ground troops, and that dozens of our implements are in use throughout the world.

Curriculum Vitae   **Aaron David Woolfson**

16 Matisse Ct., Pleasant Hill, Ca 94523 - (209) 915-2483 direct

Department of Justice, Sacramento California (2007). Authored a specialized interface to work with a telephone company database.

Practice Technologies, Inc. (2007). I was contracted to develop the database to maintain the billing and session tracking portion of Real Deal Docs, part of the Real Practice Suite of document management tools used by dozens of law firms, including Littler. I had been tasked with developing the billing methods for tracking the use of Real Deal Docs, a Web Site that indexes the documents that are filed by publicly-held companies, into searchable terms, and maintaining presentations.

Cogent Communications, Inc. (2008). I was tasked with authoring the database system for tracking the timings and overlaps of telephone calls, and establishing an audit trail of telephone calls through the phone network, based upon time, duration, origination, destination, and other characteristics. The database continues to be used to capture hundreds of thousands of telephone transaction per month that traverse the Cogent Communications Network, and maintains a detailed audit trail of service changes and inventories of equipment and.

Gallium Visual Systems - ATS (Air Traffic Control System) (2008). Incorporate modern software, hardware, and firmware into Aircraft Control Training Systems. I was tasked with manufacturing Operator Keyboards and Consoles using modern day technologies as part of the Air Traffic Control Training System, enabling ATS equipment to work with USB-enabled computers, and modern data collection systems, including databases.

First National Collection Bureau, Reno, Nv. (2008). Built a system of interconnected databases and computers capable of capturing over 250 million telephone records per year, and deep-content analyze the telephone calls for type-of-call, timing characteristics, and customer contact effectiveness. System had to maintain a minimum of 56 million phone calls per year, any of which could be instantly retrieved. The Microsoft SQL database components required that I author an exacting set of high-performance SQL database analysis scripts in conjunction with several inter-related computers, all operating autonomously operating software programs that I wrote. I have been told that I wrote the highest performance (civilian use) telephone call analysis system in the world.

American Automated Payroll, Charleston, Sc (2009) - Payroll and Time Keeping. I Authored a set of scripts to work with databases to allow payroll companies to integrate their payroll systems with the telephone network. The program that I wrote allows the electronic entry of time keeping records via telephone. Employees can use a telephone to clock in and out of work sites, or an employer can use the telephone to enter time entries into their payroll production.   I am an ongoing consultant to American Automated in the area of timekeeping, payroll database integration, paycheck and time clock reporting, and phone network integration. Additionally, I authored a database system that comprises of an automated inbound and outbound calling interface for customers of payroll companies to be able to input their daily time sheets into payroll programs, for purposes of generating payroll. The software and hardware mechanism that I authored interfaces with system such as "Evolution" (a popular and widely used payroll program), as well as Microsoft SQL, Oracle, and mySQL American Automated Payroll and TelSwitch, Inc. are engaged in an ongoing partnership tasked with developing further market verticals for my software.

Reunion Communuications, La Grange, Il (Airlink Wireless) (2010). Database for keeping track of usage, balances, and remaining minutes for a National Prepaid Wireless provider. I authored a database, and associated network interface protocol, so that customers may access real-time information about their accounts via telephone calls from their handsets. The system also maintains real-time analysis of telephone the telephone companies' databases to determine where the telephone callers are going to be routed, based upon their "OEM" handset ID, calling characteristics, and other factors. The Database, located downtown Los

16 Matisse Ct., Pleasant Hill, Ca 94523 - (209) 915-2483 direct

Angeles, is used tens of thousands of times every day by prepaid mobile carriers and their customers all over the country, who rely my high-performance database application's speed and accuracy to delivery timely information on real-time usage.

Rapid Announce, a Product of TelSwitch, Inc. (2010). I authored the combined software (database) and hardware application that is used to conduct millions of daily inquiries into several linked databases. The databases, which contain approximately three hundred thousand new collection accounts per day, is analyzed to determine to whom automated dialers should call and what those called individuals are being contacted regarding. The calls are indexed, and are reported to time tracking databases for later analysis and quality assurance. The system is currently in use by the top collection bureau(s) in the country, and makes decisions on hundreds of thousands of transactions per day. The system is also used for automated notifications in several non-collection industries.

SAIC - Patriot Missile Systems / Training division (2011). Tasked with adopting some of the database SQL analysis tools that I use in expert database analysis toward use in personnel management and battlefield equipment positioning. Expand the methods I developed for analyzing GPS data points, so that data points coming from disparate data sources could uniformly be applied into databases and then analyzed. According to SAIC, the database formulas that I had applied in my capacity as an expert in the Moreno, et al. v. J. Redfern, Inc. (RG08375539) closely mimic the GPS data point analysis that is conducted GPS data points from projectiles (missiles).

AggravationSense and VoiceVault, a Product of TelSwitch, Inc. (2011). Built a database to analyze the voice characteristics of telephone calls in real-time, to determine when someone becomes aggravated, so that they can be proactively routed to customer Service supervisors. VoiceVault contains approximately 130 characteristics of the human voice, and can be used to determine whether a telephone caller is who they say they are, with a very high degree of accuracy. The partners in this project are Qwest, AT&T Business Services, Network Services Solutions LLC, and American Automated Payroll;

Education:

San Joaquin Delta College (1991-1994); Majored in Sociology and Cultural Anthropology.

Publications, Awards, Authored Works

1996, Young Entrepreneur of the year, San Joaquin County; California.

Authored Foundational White Paper on Voice Over Internet Protocol, and filed patent application on Wide Area Centrex using Internet as Communication Backbone, as part of the Tempo Networks LLC partnership between me and two of the co-founders of Worldcom.

Authored patent application for SMS (Text Message) Initiation of a telephone call between two people by connecting two outbound calls initiated by a phone switch in a foreign country. One leg was placed to the "initiating party" and the other leg to the "called party", which were connected together to create a circuit through an intermediate county.

Co-wrote a paper presented to DARPA on the best-practices method of designing a database to conduct the analysis of large volumes of Telephone Calls. Authored in conjunction with Ted Kubaitis, the founder and Chief Software Architect of QL2.

Analysis of Scheduled Flights and the Merger Effect on Flight Availability re: Merger of United Airlines and Continental Airlines (Declaration) – In Matter of the Merger of United Airlines and

Curriculum Vitae   **Aaron David Woolfson**

16 Matisse Ct., Pleasant Hill, Ca 94523 - (209) 915-2483 direct

Continental Airlines, before the Senate Judiciary Subcommittee to Examine United/Continental Merger, May 27th, 2010, 2:15pm – Dirksen-226

Professional Certifications:

1994-2011; Certification Granted by California Public Utilities Commission (U-5410-C) to operate as a California Public Utility, after passing the standards for expertise necessary related to the operation of telephone communication systems and telephonic records database recording and billing / rating mechanisms.

2004; NACHA certification achieved for network integration of Payment Transaction Processing between financial institutions; (Bank Interchange Network).

2006-2012; Credit Card Interchange Network Certification issued by Global Payments for Software written by Aaron Woolfson related to the Networked Interchange of card member payment transactions between merchants and correspondent banks, on behalf of Master Card/Visa/American Express/Discover.

2010-2012; Certificate of PCI DSS Compliance issued by Security Metrics for maintaining best-practices in database management related to secure transaction processing between mechanized database systems.

Summary:

I have been retained as either a consulting or testifying expert in database analysis in over 150 cases, approximately 90% of which are class actions.

I have worked with both plaintiffs and defendants. I have been asked to analyze timekeeping, payroll records, telephone call records, credit card records, reimbursement records, and travel records (e.g., gps data and locations where employees worked), as well as provide analysis of technology related to Call Center and Collection Operations.